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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,739	03/31/2004	Norbert Machanek	022233-9052-00	5140
23409 7590 08/05/2010 MICHAEL BEST & FRIEDRICH LLP 100 E WISCONSIN AVENUE Suite 3300 MILWAUKEE, WI 53202				
EXAMINER				
CIRIC, LJILJANA V				
ART UNIT		PAPER NUMBER		
3744				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/813,739

Applicant(s)

MACHANEK, NORBERT

Examiner

Ljiljana (Lil) V. Ciric

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-28, 30, 31 and 37-63 is/are pending in the application.
- 4a) Of the above claim(s) 38, 39, 48, 50, 51 and 59 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-28, 30, 31, 37, 40-47, 49, 52-58 and 60-63 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 06/13/2008
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election of the first species or the embodiment of Figures 2, 3, and 5 in the reply filed on June 3, 2010 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 38, 39, 48, 50, 51, and 59 are hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to the non-elected second and third species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on June 3, 2010.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

4. The drawings filed on March 31, 2004 are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the features canceled from the claims, for example: the respective major directions of the oblong cross-sections as recited in claim 25; and, fan mounting arms and arm attachments along a longitudinal wall of at least one of the longitudinal headers as recited in claim 31. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and

where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings filed on March 31, 2004 are also objected to because they are generally of poor/uneven line quality, because they include handwritten reference characters at least some of which are difficult to discern, and because the details shown are not sufficiently large to be readily discernible (i.e., recommend placing at least some of the Figures on separate pages and enlarging these accordingly) . Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

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6. The abstract of the disclosure is objected to because it does not avoid legal phraseology normally reserved for claims (i.e., "consisting of", appearing in the first sentence). Correction is required. See

MPEP § 608.01(b).

7. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

8. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

9. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

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there is no antecedent basis in the specification for the term “engagement element” appearing in new base claim 46 and all claims depending therefrom.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 19 through 28, 30, 31, 37, 40 through 47, 49, 52 through 58, and 60 through 63 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The transitional phrase “consisting of” (which excludes any element, step, or ingredient not specified) appears in the clause “at least two heat exchangers each consisting of a pair of longitudinal headers with flow passages extending between said headers” [claim 19, lines 2-3], thus in effect limiting each of the at least two heat exchangers to exactly that—a pair of longitudinal headers with flow passages extending between the headers. But, the wherein clause at the end of claim 19 already appears to attempt to add elements to the at least two heat exchangers by reciting that “one of the adjacent headers includes a recessed portion in the adjacent end”, that “the other of said adjacent headers includes a flange receivable in said recessed portion of said one header”, that “aligned holes extend through said flange and said one header end”; and, even more inconsistently with the transitional phrase “consisting of”, “a fastener received in said aligned holes in the ends of at least one set of adjacent headers”. Furthermore, claim 21 depending from claim 19 also attempts to add additional elements to the heat exchangers by reciting “further comprising shroud attachments along a longitudinal wall of at least one of the longitudinal headers”. Similarly, claim 22 depending from claim 19 appears to also attempt to add additional elements to the heat exchangers by reciting “further comprising an intermediate insert between the flow passages of said adjacent headers”. Claim 28 depending from claim 19 appears to also attempt to add additional elements to the heat exchangers by reciting “said flow passages *together with fins* define a core for each

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heat exchanger". Claim 31 also depending from claim 19 appears to attempt to add additional elements to the heat exchangers by reciting "further comprising fan mounting arms, and arm attachments along a longitudinal wall of at least one of the longitudinal headers". This inconsistency between the transitional phrase "consisting of" in base claim 19 and elements which the limitations in claim 19 and in claims depending therefrom appear to propose adding to the at least two heat exchangers renders indefinite the metes and bounds of protection sought by the claims.

There is insufficient antecedent basis in the claims for at least the following limitations in the claims: "said adjacent headers" [claim 19, line 5; claim 22, line 2]; "the adjacent end" [claim 19, line 5]; "the other of said adjacent headers" [claim 19, line 6]; "said one header end" [claim 19, line 8]; "the ends of the at least one set of adjacent headers" [claim 19, line 9]; "said oblong cross-sections" [claim 25, lines 1-2]; "the other oblong cross-section" [claim 25, line 3]; "adjacent headers" [claim 27, line 1]; "said cores" [claim 28, line 2]; "the tubes of each heat exchanger" [claim 42, line 1]; "the other header" [claim 43, line 2; claim 55, line 2]; "the end of the second heat exchanger having an aperture" [claim 49, lines 2-3]; "the aligned apertures" [claim 49, line 3]; "the first and second heat exchanger ends" [claim 49, lines 3-4]; "the first heat exchanger core" [claim 54, line 2]; "the second heat exchanger core" [claim 54, line 3]; "another header of the second heat exchanger" [claim 55, lines 2-3]; "the heat exchanger components" [claim 59, line 2]; "the first and second heat exchanger cores" [claim 60, line 4]; and, "attachment portions" [claim 61, line 2].

The term "low" appearing in each of at least claims 22, 56, and 62 is a relative term which renders these claims (and any claims depending therefrom) indefinite. The term "low" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Thus, as used to qualify the thermal conductivity of the recited insert, this term renders the same indeterminate and the claims indefinite.

With regard to claim 24 as written, it is not clear what is encompassed by the term “an axial dimension of said holes” as recited in line 3 of the claim. Claim 40 is similarly unclear, reciting “an axial dimension of the aperture” in line 2.

With regard to claim 25 as written, it is also not clear what is encompassed by the term “major dimension” as recited in the claim.

With regard to base claim 37 as written, it is not clear to which preceding element(s) each occurrence of the term “therefrom” appearing in each of lines 2, 3, and 4 refers to.

With regard to base claim 46 as written, the limitation “with a header forming a manifold for fluid flow, an end of the header having an engagement element” appearing in lines 4-5 of the claim is identical to the same limitation appearing in lines 2-3 of the claim as written. It is thus not clear if there is one manifold or two, as recited by the claim. Furthermore, the two headers, the ends of the two headers, and the two engagement elements must also be more clearly differentiated in the claim in order to more clearly set forth the metes and bounds of protection sought by the claim and all claims depending therefrom.

With regard to base claim 58 as written, it is not clear to which of the previously recited ends the limitation “the end” appearing in line 5 of the claim refers.

With regard to claim 63 as written, it is not clear to which of the previously recited elements the indefinite pronoun “it” appearing in line 2 of the claim refers.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. As best can be understood in view of the indefiniteness the claims, claims 19, 22 through 24, 26, 27, 30, 46, 47, 52 through 58, 60, and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Price.

Price discloses a heat exchanger block essentially as claimed, as well as a corresponding method of forming the same, including, for example: at least two heat exchangers A and B each consisting of a pair of headers with flow passages extending 3 and 7 extending between the pair of headers in each of the heat exchangers A and B; aligned holes 10 in the flanges of the respective headers; and, a fastener or through bolt 11 extending through the aligned holes 10. Also, the gaskets between the interlocking bossed flow-through apertures between the flow passages of heat exchangers A and B are readable on the low thermal conductivity inserts as recited in claims 22 and 62 of the instant application. See page 2, lines 18-38.

The reference thus reads on the claims.

14. Alternately for claims 46, 47, 52 through 58, 60, and 62 and as best can be understood in view of the indefiniteness the claims, claims 37, 40 through 47, 49, 52 through 58, 60, and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Young ('457).

Young ('457) discloses a heat exchanger block essentially as claimed, as well as a corresponding method of forming the same, including, for example: a plurality of heat exchanger sections A, B, and C (each section readable on a separate heat exchanger in the heat exchanger block as recited in the claims of the instant application), with each of the sections or heat exchangers having a first header 10 and a second header 11, as well as tubes 12 extending therebetween; aligned apertures 19 and/or 30 between adjacent headers 10; and, a fastener or engagement element or bolt 20 positioned through the aligned apertures to detachably connect the plural heat exchanger sections or heat exchangers A, B, and C. Also, the gaskets 19b between the aligned flow-through apertures between the flow passages of heat exchangers A and B is readable on the low thermal conductivity inserts as recited in claim 62 of the instant application.

The reference thus reads on the claims.

15. Alternately for claims 19, 22 through 24, 26, 27, 30, 37, 40 through 47, 49, 52 through 58, 60, and 62, and as best can be understood in view of the indefiniteness the claims, claims 19, 21 through 28, 30, 31, 37, 40 through 47, 49, 52 through 58, and 60 through 63 are rejected under 35 U.S.C. 102(b) as being anticipated by Struss et al.

Struss et al. discloses a heat exchanger block essentially as claimed, as well as a corresponding method of forming the same, including, for example: a plurality of heat exchangers such as heat exchangers 12 and 14, with each of the heat exchangers having a first header 22 and a second header 24, as well as finned tubes 26 extending therebetween forming corresponding heat exchanger cores; aligned apertures 38 and 40 between adjacent headers; flanges 30, 32 and 38 and corresponding recessed portions, as well as aligned apertures 38 and 40 between adjacent headers; inserts 18 and 20 made of an insulating material (i.e., having a low thermal conductivity) and disposed between the flow passages or tubes 26 of adjacent headers 22 or 24; fasteners 80 and 82 received in aligned holes 38 and 40; and, a fan shroud 10 with corresponding attachments. Insulating inserts 18 and 20 are also alternately at least broadly readable on isolation dampers as recited in claim 63 of the instant application.

The reference thus reads on the claims.

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. As best can be understood in view of the indefiniteness of the claims, claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Price.

As discussed in greater detail above, Price discloses a heat exchanger block essentially as claimed, including at least two cast metal heat exchangers A and B. While Price does not specifically disclose that the two cast metal heat exchangers A and B are made from aluminum, Official Notice is hereby taken that it is notoriously well known in the art of making heat exchangers to make heat exchangers out of aluminum. Thus, it would have been obvious to one skilled in the art at the time of invention to specifically modify the heat exchanger block of Price by making the cast metal heat exchangers A and B out of aluminum in order to improve the heat transfer efficiency thereof while keeping the weight of the heat exchanger block low.

Conclusion

18. The following additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible schedule, but can normally be reached weekdays between 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer

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Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ljiljana (Lil) V. Ciric/

Primary Examiner, Art Unit 3744